

CLAIMS

What is claimed is:

1. A system comprising:
 - a chamber configured to house a substrate for processing;
 - an energy source coupled to the chamber;
 - a system controller configured to control the introduction of at least two metal constituents to a focused ion beam and to control the introduction of the focused ion beam; and
 - a memory coupled to the controller comprising a computer-readable medium having a computer-readable program embodied therein for directing operation of the system, the computer-readable program comprising:
 - instructions for controlling the energy source and for introducing the metal constituents by one of:
 - (1) mixing the at least two metal constituents and introducing the at least two metal constituents into a chamber in which a focused ion beam contacts the at least two metal constituents to form a first alloy layer over a substrate;
 - (2) introducing at about the same time at least two precursor gas sources in which each precursor gas source contains a respective one of the at least two metal constituents and the focused ion beam contacts the at least two precursor gases to form a first alloy layer over a substrate, and
 - (3) forming a first layer of a first of the at least two metal constituents and a second layer of a second of the at least two metal constituents to create a multi-metal layer and performing one of thermal treatment and introducing focused ion beam to at least a portion of the multi-metal layer to form a first alloy layer over a substrate.

2. The system of claim 1, wherein each of the at least two metal constituents is selected from the group consisting of cobalt, metal carbonyl, molybdenum and tungsten.
3. The system of claim 2, further comprising:
forming more than one alloy layer, wherein a second alloy layer is formed over the first alloy layer.
4. The system of claim 3, wherein the second alloy layer is created from a second multi-metal layer which is exposed to an alloy process.
5. The system of claim 4, wherein the alloy process involves the second multi-metal layer exposed to one of a thermal treatment and to a focused ion beam.
6. A machine readable storage medium containing executable program instructions which when executed cause a system to perform a method comprising:
controlling introduction of at least two metal constituents into a chamber;
controlling a formation of an alloy from the at least two metal constituents by controlling one of:
 - (1) introducing the at least two metal constituents into a chamber in which a focused ion beam contacts the two metal constituents to form a first alloy layer over a substrate;
 - (2) introducing at about the same time at least two precursor gas sources in which each precursor gas source contains a respective one of the at least two metal constituents and the focused ion beam contacts the at least two precursor gases to form a first alloy layer over the substrate, and
 - (3) forming a first layer of a first of the at least two metal constituents and a second layer of a second of the at least two metal constituents a multi-metal layer and performing one of thermal treatment and introducing focused ion

beam to at least a portion of the multi-metal layer to form a first alloy layer over a substrate.

7. The machine readable storage medium of claim 6, the method further comprises: forming more than one alloy layer, wherein a second alloy layer is formed over the first alloy layer.

8. The machine readable storage medium of claim 6, wherein the method further comprises:

controlling a formation of a second alloy layer over the substrate.

9. The machine readable storage medium of claim 6, wherein each of the at least two metal constituents is selected from the group consisting of cobalt, metal carbonyl, molybdenum, and tungsten.

10. The method of claim 8, wherein the method further comprises:
an alloy process to the second alloy layer.

11. The machine readable storage medium of claim 10, wherein the alloy process is one of thermal treatment and applying a focused ion beam to the second alloy layer.